

TCBRU Roof Upblast Fan



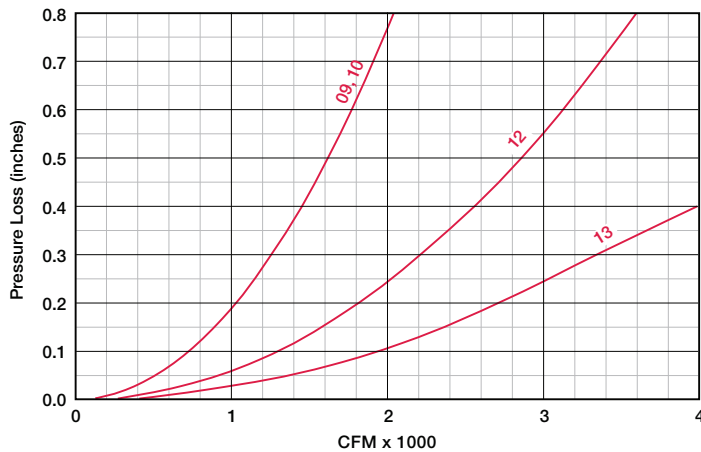
The TCBRU is ideal for roof upblast exhaust systems with moderate system static pressures and for applications where quiet operation is essential. Standard features include a necked-down windband section which creates the high outlet velocities necessary to carry contaminated exhausts away from the roof deck. All TCBRU fans include motor covers for weather protection of the motor and drives, gravity operated dampers to prevent backflow into the building, and a welded curb cap for ease in mounting to a roof curb. TCBRU fans are available in either painted steel or aluminum construction.

Typical applications include:

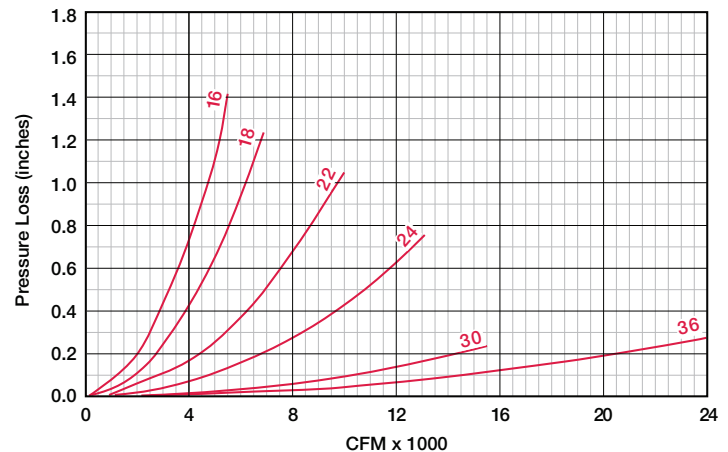
- Low cfm/high velocity exhaust
- General exhaust
- Fume hood exhaust
- Industrial process exhaust

When selecting TCBRU fans, use the TCB inline performance data (pgs. 12 to 31) along with the following system effect curves. The pressure loss determined below must be added to the extended system static pressure to assure accurate selections. Greenheck's Computer Aided Product Selection (CAPS) software will add these system effects automatically.

System Effect Curves Sizes 9-13



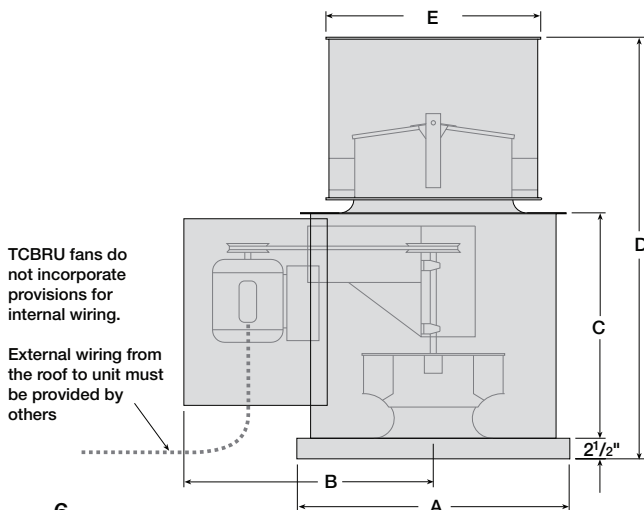
Sizes 16-36



Dimensional Data

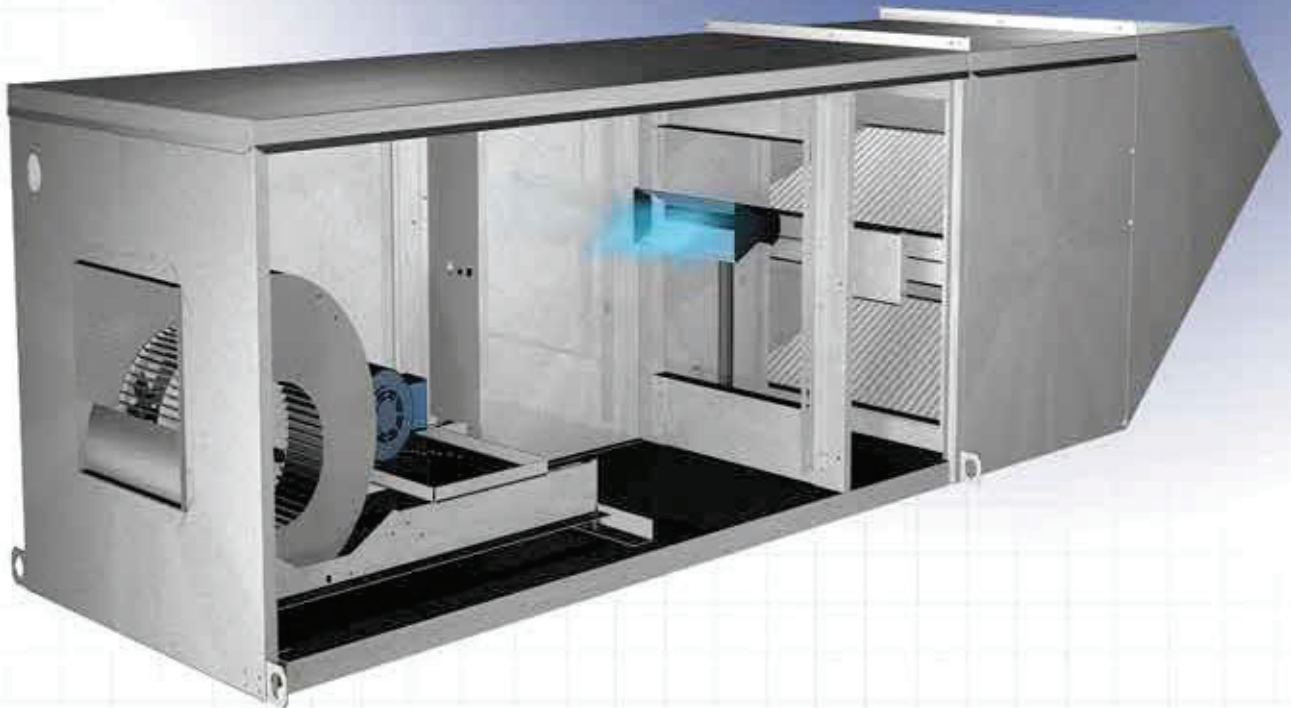
Size	A	B	C	D	E	Minimum CFM Required to Open Dampers
09	22	21½	23	45	20	425
10	22	21½	23	45	20	425
12	22	21½	23	45	20	1250
13	4	23½	24½	50½	24	1800
16	28	25½	28½	53	28	2030
18	34	28½	31	57½	30	2570
22	40	34	35½	64	34	2740
24	46	36½	42	74½	40	4760
30	52	42¼	48½	84	46	6600
36	58	45½	54	94½	52	8700

All dimensions shown in inches.



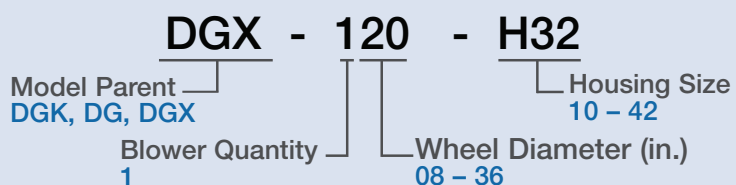
Direct Gas-Fired Make-Up Air Models DGK, DG and DGX

Kitchen and Industrial Applications



Model Number Code

The model number code is designed to completely identify the unit. The correct code letters must be specified to designate the configurations and size.



Model DGK - Economy

Model DGK is designed to be the most economical, compact, and simple approach to 100% outdoor air kitchen applications. The DGK is perfect for budget-sensitive kitchen applications that require heated make-up air.

- **Airflow Arrangement** - 100% Outdoor Air
- **Performance Range** - 1,500 to 8,500 cfm
- **Heating Capacity** - Up to 800,000 BTU/hr



Model DG - Standard

The model DG sets the standard for an efficient approach to tempered make-up air applications with several intake and filtering configurations and optional evaporative cooling. The variable volume option on the DG integrates seamlessly with Vari-Flow and Melink® kitchen energy management systems.

- **Airflow Arrangement** - 100% Outdoor Air and Variable Air Volume
- **Performance Range** - 800 to 15,000 cfm
- **Heating Capacity** - Up to 1,600,000 BTU/hr
- **Cooling Capacity** - Evaporative cooling up to 12,000 cfm



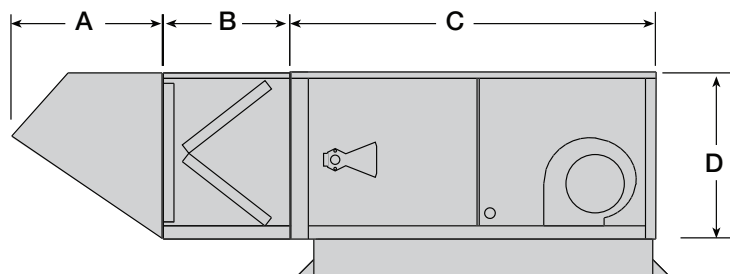
Model DGX - Configurable

The model DGX is a highly configurable direct gas-fired heating system that incorporates a modular design for maximum flexibility. The DGX also has expanded heating, cooling, and airflow capacities to provide make-up air across a broad range of commercial and industrial applications. Use the DGX in applications ranging from kitchens that require cooling and direct gas-fired heat, as well as large manufacturing or industrial facilities.

- **Airflow Arrangement** - 100% Outdoor Air, Variable Air Volume and Recirculation
- **Performance Range** - 800 to 48,000 cfm
- **Heating Capacity** - Up to 4,800,000 BTU/hr
- **Cooling Capacity**
 - Evaporative cooling up to 48,000 cfm
 - Chilled water cooling up to 11,700 cfm
 - Split DX cooling up to 11,700 cfm
 - Packaged DX cooling up to 7,500 cfm



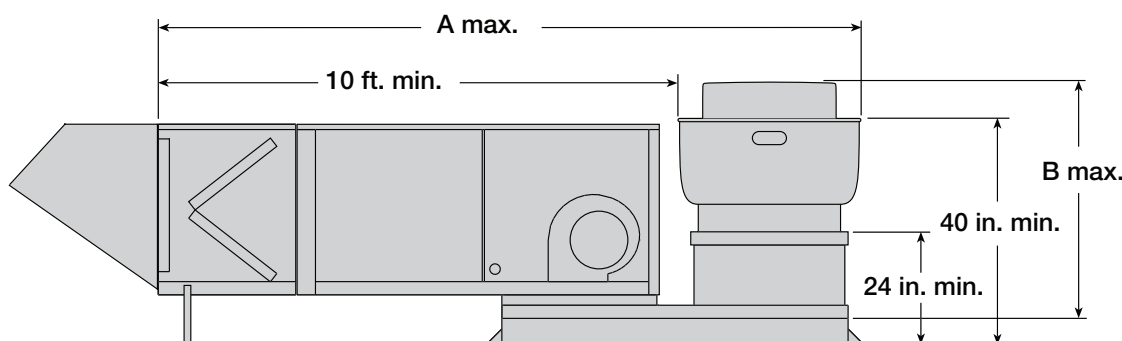
DG Stand Alone



Model	A			B	C	D	Width	Approximate Weight	Airflow Range (CFM)
	Filtered	Louvered	Birdscreen						
DG-H10	31.8	27.5	26.3	27.8	78.3	33.8	28	600	800 - 3000
DG-H20	34.8	30.3	32.3	30.3	86.3	33.8	37	700	2,600 - 6,500
DG-H30	65.3	33.3	28.3	33	101.8	42.5	48	1,100	6,500 - 15,000

All dimensions are shown in inches. All weights are shown in pounds and includes birdscreen weatherhood and 2-inch filter section.

DG with Combination Package



Model	A*	B*	Width	Approximate Weight*
DG-H10	159.5	47	35.5	900
DG-H20	172.8	57.8	50	1,200
DG-H30	199	63.3	58.8	1,700

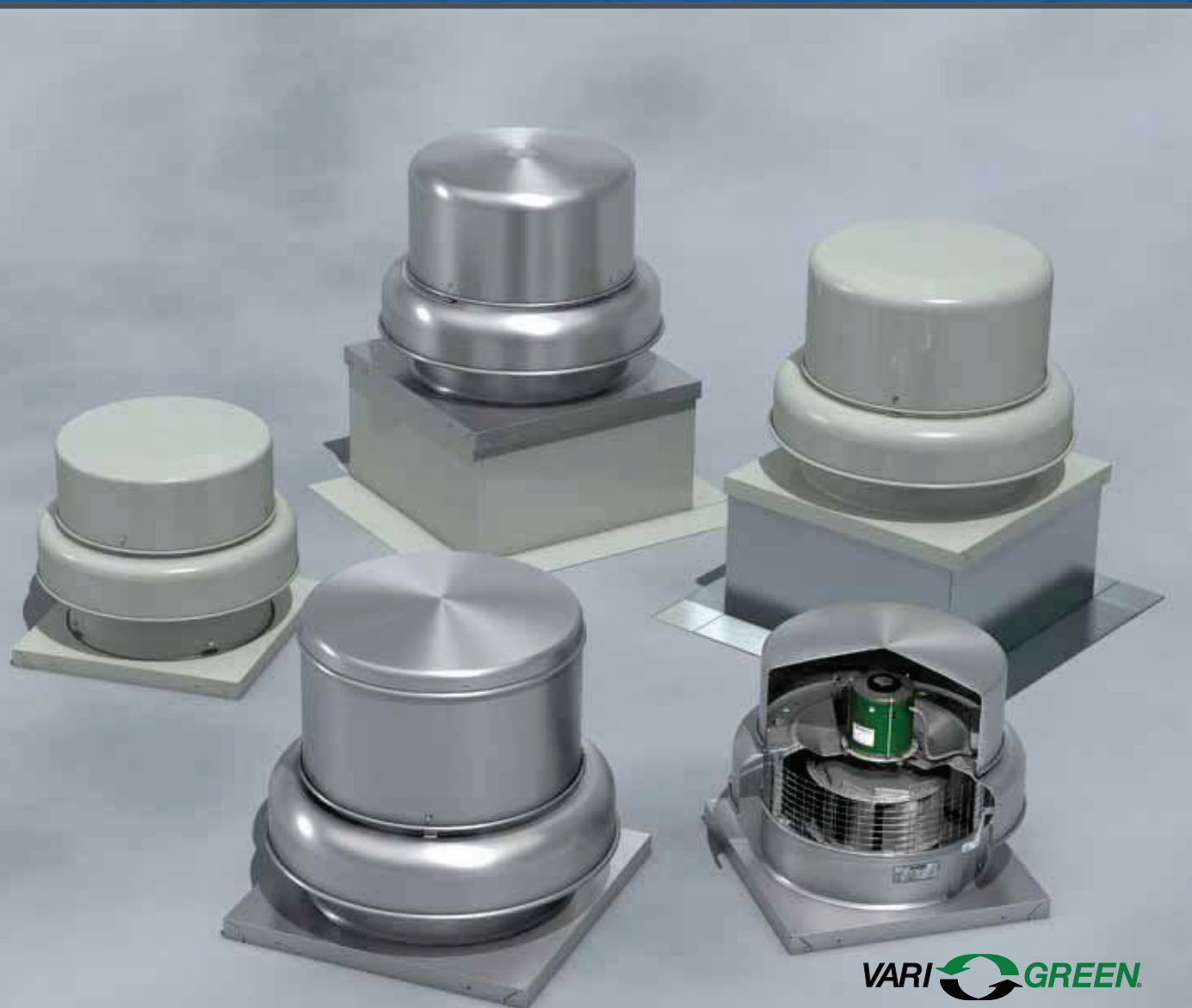
All dimensions are shown in inches. All weights are shown in pounds and includes birdscreen weatherhood, 2-inch filter section, curb, fan pack extension and equipment support.

*Based on largest available CUBE exhaust fan.

Centrifugal Roof Downblast Exhaust Fans

Models G and GB

- General Clean Air • Light Contaminants
- Seismic • High Wind • Variable Volume



VARI  GREEN.

Performance data now included.

 **GREENHECK**
Building Value in Air.



BUILDING VALUE IN AIR.

March
2013

General Clean Air (figure 1)

Models G and GB exhaust fans are designed to meet the needs of general clean air applications. Tests were conducted to assure safe, rugged and reliable fans.

Due to the varying types of airstreams encountered in commercial ventilation, system designers must be aware of national, state, and local codes and guidelines governing these installations. Local code authorities should be consulted before proceeding with any ventilation project.

- When roofing materials extend to the top of the curb, roof curbs should be 1½ inches (¾ inch on each side) less than the unit curb cap to allow for roofing and flashing.
- For recommended duct size, damper size, and roof opening dimensions, refer to the performance data pages. (starting on pg. 14)
- Installation must include a means for inspecting, cleaning and servicing the exhaust fan.

High Wind, Hurricane and Seismic (figure 2)

- Roofing materials can extend to the top of the curb, roof curbs should be 1 inch (25 mm) total, or ½ inch (13 mm) on each side, less than the unit curb cap to allow for roofing and flashing.

Note: The typical installations shown are recommendations based on national codes. Local authority may supersede these recommendations.

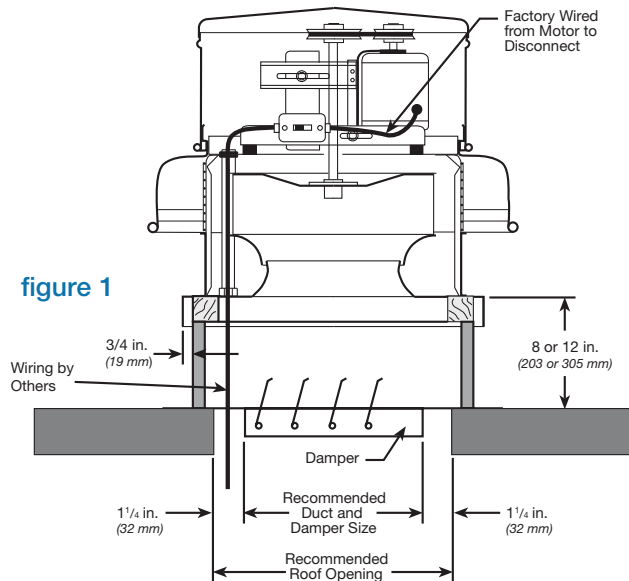


figure 1

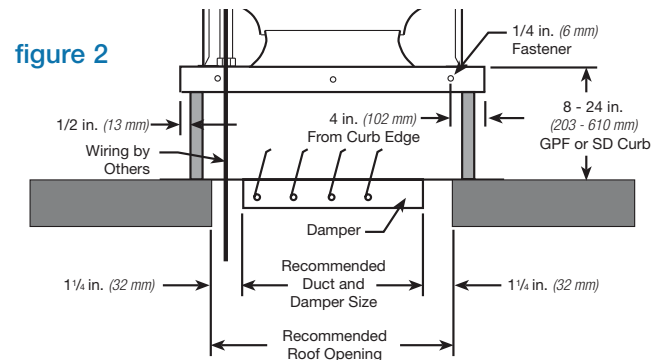
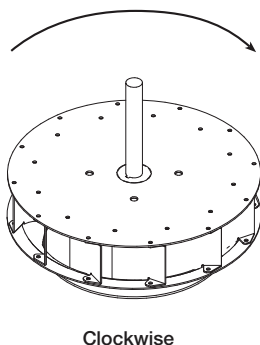


figure 2

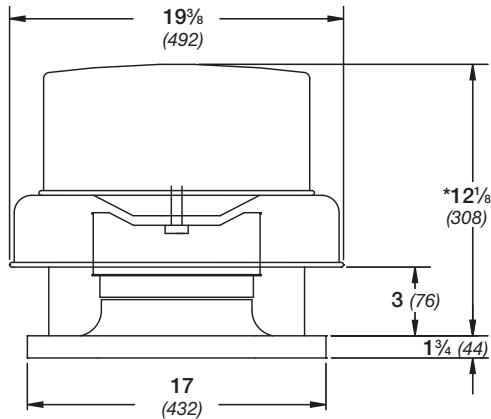


Clockwise

Wheel Rotation

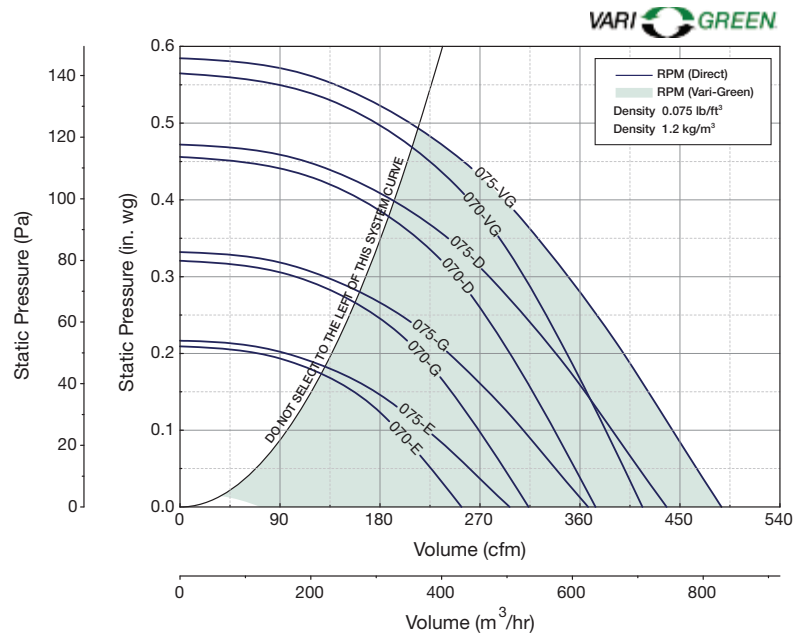
Direction of rotation is very critical. Rotation in the wrong direction will result in excessive horsepower, possible motor burnout, and increased noise levels. Check rotation by energizing the unit momentarily. The rotation should be the same as the rotation decals affixed to the unit and is clockwise when viewed from the top of the unit.

Roof Downblast - Exhaust Direct Drive G-070 • G-075



Damper Size = 8 x 8 (203 x 203)
Roof Opening = 10 1/2 x 10 1/2 (267 x 267)
Shroud Thickness = 0.064 (1.6)
Motor Cover Thickness = 0.040 (1.0)
Curb Cap Thickness = 0.064 (1.6)
^Approximate Unit Weight = 15 lbs. (7 kg)

All dimensions in inches (millimeters). *May be greater depending on motor.
^Weight shown is largest cataloged Open Drip-Proof motor.





Direct Drive RPM

E-1050 RPM

G-1300 RPM

D-1550 RPM

Direct Drive	Motor HP	Fan RPM		Static Pressure in Inches wg									
				0	0.05	0.1	0.125	0.15	0.2	0.25	0.3	0.375	0.4
070													
VG-1/6 	E-1/100	1050	CFM	253	226	195	179	152					
			BHP	0.01	0.01	0.01	0.01	0.01					
			Sones	2.7	2.1	1.7	1.5	1.2					
	G-1/60	1300	CFM	314	292	269	257	244	214	171			
			BHP	0.01	0.01	0.02	0.02	0.02	0.02	0.02			
			Sones	4.1	3.7	3.4	3.3	3.2	2.9	2.6			
	D-1/30	1550	CFM	374	356	337	327	317	297	274	244	190	
			BHP	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	
			Sones	5.6	5.4	5.2	5.1	5.1	4.9	4.7	4.5	4.1	
		1725	CFM	416	400	383	375	366	348	329	309	270	253
			BHP	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
			Sones	6.8	6.7	6.7	6.6	6.6	6.5	6.3	6.2	5.9	5.7
075													
VG-1/6 	E-1/80	1050	CFM	297	260	222	200	176					
			BHP	0.01	0.01	0.01	0.01	0.01					
			Sones	3.6	3.1	2.9	2.8	2.6					
	G-1/50	1300	CFM	367	338	309	293	277	241	195			
			BHP	0.02	0.02	0.02	0.02	0.02	0.02	0.02			
			Sones	4.1	3.9	3.7	3.7	3.7	3.6	3.5			
	D-1/25	1550	CFM	438	413	389	377	364	337	309	277	214	
			BHP	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.03	
			Sones	6.1	5.8	5.6	5.4	5.3	5.1	4.9	4.9	4.8	
		1725	CFM	487	465	443	432	421	399	374	349	306	292
			BHP	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
			Sones	8.0	7.5	7.2	7.1	6.8	6.5	6.2	6.1	6.0	6.0

Performance certified is for installation type A: Free inlet, Free outlet. Power rating (BHP) does not include transmission losses. Performance ratings include the effects of a birdscreen. The sound ratings shown are loudness values in hemispherical sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: free inlet hemispherical sone levels.

25HCB3
Comfort™ 13 Series Heat Pump
with Puron® Refrigerant
1 – 1/2 To 5 Nominal Tons (Sizes 18 To 60)



Turn to the Experts.™

Product Data



Comfort
SERIES

Carrier's heat pumps with Puron® refrigerant provide a collection of features unmatched by any other family of equipment. The 25HCB3 has been designed utilizing Carrier's Puron refrigerant. The environmentally sound refrigerant allows consumers to make a responsible decision in the protection of the earth's ozone layer.

As an Energy Star® Partner, Carrier Corporation has determined that this product meets the Energy Star® guidelines for energy efficiency. Refer to the combination ratings in the Product Data for system combinations that meet Energy Star® guidelines.

NOTE: Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory (www.ahridirectory.org) for the most up-to-date ratings information.

INDUSTRY LEADING FEATURES / BENEFITS

Efficiency

- 13 SEER/ 10.1 – 10.8 EER/ 7.7 – 8.3 HSPF (Nominal)
- Microtube Technology™ refrigeration system
- Indoor air quality accessories available

Sound

- Sound level as low as 70 dBA

Comfort

- System supports Thermidistat™ or standard thermostat controls

Reliability

- Puron® refrigerant – environmentally sound, won't deplete the ozone layer and low lifetime service cost.
- Front-seating service valves
- Scroll compressor
- Internal pressure relief valve
- Internal thermal overload
- High pressure switch
- Loss of charge switch
- Filter drier
- Balanced refrigeration system for maximum reliability

Durability

WeatherArmor™ protection package:

- Solid, durable sheet metal construction
- Steel louver coil guard
- Ceramic coated cabinet screws
- Baked-on, complete coverage, powder paint

Applications

- Long-line – up to 250 feet (76.20 m) total equivalent length, up to 200 feet (60.96 m) condenser above evaporator, or up to 80 ft. (24.38 m) evaporator above condenser (See Longline Guide for more information.)
- Low ambient (down to -20°F/-28.9°C) with accessory kit

Warranty

Single-Phase

- 10 year limited compressor warranty
- 5 year limited parts warranty

Three-Phase

- 5 year limited compressor warranty
- 1 year limited parts warranty

DIMENSIONS - ENGLISH

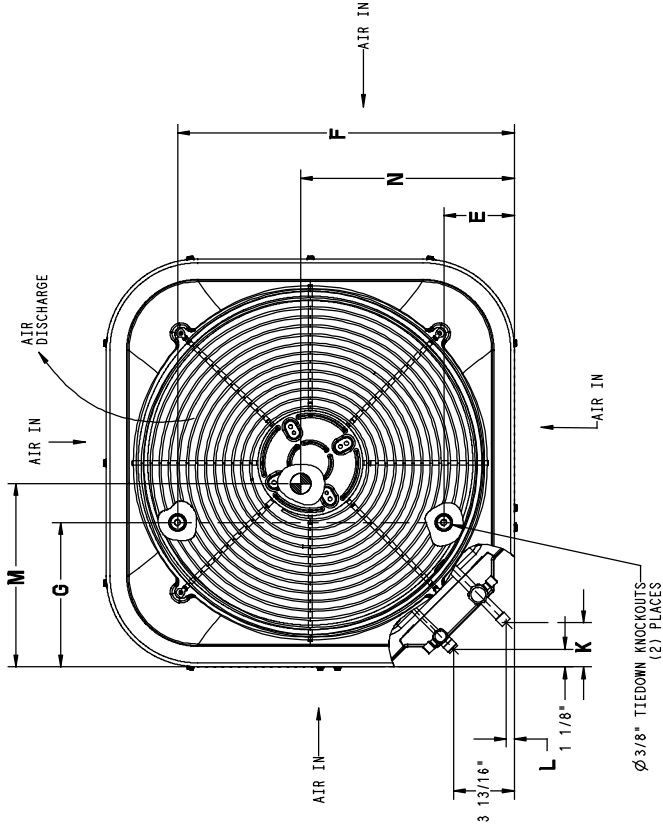
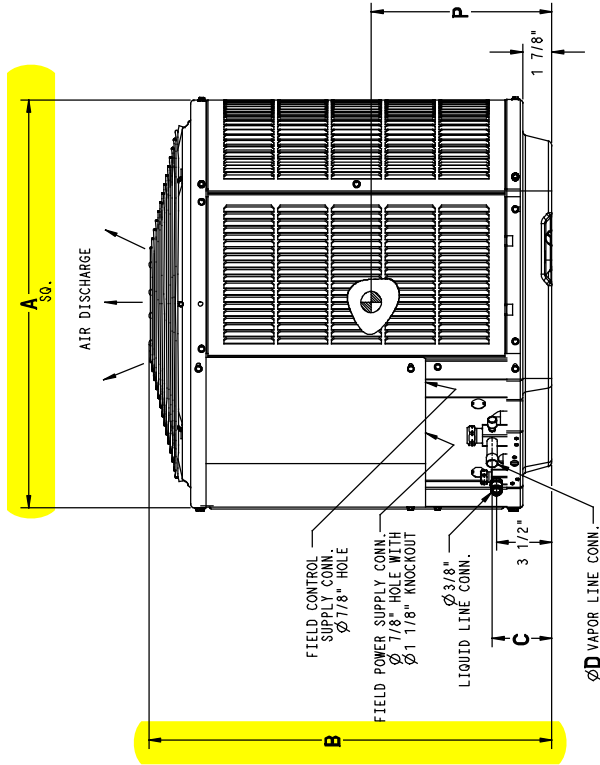
25HCB3

UNIT	SERIES	ELECTRICAL CHARACTERISTICS	A	B	C	D	E	F	G	K	L	M	N	P	OPERATING WEIGHT (lbs)	SHIPPING WEIGHT (lbs)	SHIPPING DIMENSIONS (L x W x H)
25HCB318	0	X	0	0	31 3/16"	28 15/16"	3 3/4"	5/8"	6 9/16"	24 11/16"	9 1/8"	2 13/16"	1 1/2"	14"	14 3/4"	14"	32 3/8" X 35 1/2" X 32 9/16"
25HCB324	0	X	0	0	31 3/16"	28 15/16"	3 3/4"	5/8"	6 9/16"	24 11/16"	9 1/8"	2 13/16"	1 1/2"	15 5/8"	16 3/4"	14 1/2"	32 3/8" X 35 1/2" X 32 9/16"
25HCB330	0	X	0	0	31 3/16"	39 1/8"	3 3/4"	3/4"	6 9/16"	24 11/16"	9 1/8"	2 13/16"	1 1/2"	17"	206	235	32 3/8" X 35 1/2" X 42 3/4"
25HCB336	0	X	0	X	35"	32 5/16"	3 3/4"	3/4"	6 9/16"	28 7/16"	9 1/8"	2 13/16"	1 1/2"	16"	203	241	36 1/8" X 39 5/16" X 35 15/16"
25HCB342	0	X	0	X	35"	39 1/8"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	17 1/4"	19 1/8"	263	36 1/8" X 39 5/16" X 42 3/4"
25HCB348	0	X	0	X	35"	32 5/16"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	19"	283	313	36 1/8" X 39 5/16" X 35 15/16"
25HCB360	0	X	0	X	35"	39 1/8"	3 7/8"	7/8"	6 9/16"	28 7/16"	9 1/8"	2 15/16"	5/8"	19"	299	331	36 1/8" X 39 5/16" X 42 3/4"

X = YES
0 = NO

NOTES:

1. ALLOW 30" CLEARANCE TO SERVICE SIDE OF UNIT, 48" ABOVE UNIT, 6" ON ONE SIDE, 12" ON REMAINING SIDE, AND 24" BETWEEN UNITS FOR PROPER AIRFLOW.
2. MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F, MAX. 125°F.
3. SERIES DESIGNATION IS THE 13TH POSITION OF THE UNIT MODEL NUMBER.
4. CENTER OF GRAVITY
5. ALL DIMENSIONS ARE IN *INCHES* UNLESS NOTED.



UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
-	26" X 26"
18, 24, 30	31 1/2" X 31 1/2"
36, 42, 48, 60	35" X 35"